Testimony

of

James H. Hancock, Jr.

for the

National Hydropower Association

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Hydropower Provisions of the *Energy Policy Act of 2005*

Good morning Mr. Chairman and members of the Committee. My name is Jim Hancock. I am the Legislative Affairs Committee Chairman for the National Hydropower Association. I am also engaged in the private practice of law with Balch & Bingham in Birmingham, Alabama, where I have worked on hydropower issues for 17 years.

NHA is the only national trade association committed exclusively to representing the hydropower industry. Its 140-plus members are a diverse mix of investor-owned utilities, public power companies, independent power producers, equipment suppliers, manufacturers, attorneys, and consultants. NHA represents over 60 percent of FERC-licensed hydropower capacity, and has been based in Washington, DC since 1983. Its mission is to promote the nation's largest renewable resource, and to ensure that it plays as strong a role as possible in the nation's energy strategies.

On behalf of NHA, I greatly appreciate the opportunity to discuss with you the hydropower provisions of the *Energy Policy Act of 2005*, and to encourage you to adopt these provisions this year. In addition, since there has been a great deal of inaccurate reporting and apparent misunderstanding about the hydropower licensing reform provisions, I want to clarify for you what they do, and do not do, in terms of bringing much-needed reforms to the hydro licensing process. NHA strongly supports these provisions for the reasons discussed below. In addition, NHA offers a few minor changes to the bill not related to licensing reform that NHA strongly encourages the Committee to adopt.

As this Committee knows, hydropower is one of the nation's most valuable resources. According to the Energy Information Administration, hydropower accounts for approximately seven percent (7%) of the nation's electricity in terms of actual generation (275,006,940,000 KwH)

and about nine percent (9%) in terms of generating capacity. Hydropower accounts for 83% of the United States' renewable energy capacity and approximately 77% percent of actual renewable electricity generation.

Hydropower is low-cost, domestic, renewable, and emits no air pollution. Hydropower also plays a major role reducing carbon emissions, provides vast recreational opportunities, and improves electric grid reliability. It can also provide substantial water supply, flood control and navigation benefits. In short, hydropower possesses attributes unmatched by any other source of energy and provides numerous benefits every day to millions of Americans.

In fact, in its December 2004 report entitled, *Ending the Energy Stalemate*, the bipartisan National Commission on Energy Policy commented that hydropower is an "important source of energy for industry and commerce in the United States" and that "hydropower provides significant air quality and climate benefits relative to other forms of power."

Despite its many benefits, the hydropower resource faces significant impediments that jeopardize its ability to play an important role in our nation's energy strategies. Congress must address these issues. Here is what it can do in the 109th Congress to ensure that hydropower plays a strong role in the nation's energy future:

HYDROPOWER LICENSING REFORM

Hydropower is a resource on the decline[1], and the primary cause of this decline is the convoluted hydropower licensing process, which is a product of the existing statutory structure that grants

[1] Energy Information Administration has forecasted decreased hydroelectric capacity as "regulatory actions limit capacity at existing projects."

various federal agencies license conditioning authority. The D.C. Circuit Court of Appeals recently referred to this as "an unusual statutory configuration.[2]"

In short, hydropower project owners, their electric customers, and the general public are facing a deterioration of hydropower's important benefits due to how the licensing process today functions. Simply put, it fails to effectively balance the nation's growing energy needs with its important environmental goals.

Over half of the nation's hydropower capacity – 296 projects in 44 states with a total capacity of over 30,000 MWs – must receive a new operating license from FERC by the year 2018. Many of those projects have already or will soon begin the licensing process. The time is running out for these projects to benefit from meaningful reforms to the licensing process.

Almost all hydropower stakeholders have long agreed that the licensing process is broken. Recent administrative actions have been helpful. In particular, NHA is optimistic that FERC's new integrated licensing process will provide significant procedural improvements. In addition, the Department of the Interior is currently considering a proposed rule that would, among other things, provide an appeals process for mandatory conditions developed by that agency. However, only legislative action will truly repair the process in a way that balances the nation's energy needs with the need, and quite frankly the industry's desire, to adequately address and mitigate for hydropower's environmental impacts.

Since 1986, the Federal Power Act has required that FERC give "equal consideration" to a variety of factors when issuing hydro project licenses and relicenses. Specifically, Section 4(e) of

[2] Wisconsin Power & Light Company v. Federal Energy Regulatory Commission, 363 F.3d 453 (D.C. Cir. 2004).

the Act requires that FERC "in addition to the power and development purposes for which the license is issued, shall give equal consideration to the purposes of energy conservation, the protection, mitigation of damages to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality." In short, FERC is to issue licenses that balance these various interests.

However, the authority granted certain Federal agencies under Section 4(e) and Section 18 of the Federal Power Act makes this balancing act virtually impossible in many circumstances. Section 4(e) requires that where part of a project will include federal lands, FERC must include in the license for that project such conditions as determined by the Secretary of the department that supervises the federal lands to be "necessary for the adequate protection and utilization" of those lands. Similarly, Section 18 requires FERC to include a fishway prescription in a license at the direction of either the Secretary of Commerce or Interior.

Federal courts have interpreted this Section 4(e) and Section 18 authority as being "mandatory," meaning that FERC must accept these conditions or prescriptions and include them in the license without alteration. Thus, while FERC through its rehearing process may create stronger licenses from a resource protection standpoint if stakeholders demonstrate that additional measures are necessary, FERC is prohibited from modifying agency conditions it, or an applicant, deems excessive, overly-costly or unsupported by the record in the license proceeding.

Unfortunately, these resource agencies do not have an obligation to consider the impacts of their conditions on other aspects of the project such as power generation, recreation, reliability, clean

air, etc. Since FERC is powerless to change these mandatory conditions, it must attempt to create balanced licenses working around the mandatory conditions dictated by the agencies.

The net result is that no one is looking at these mandatory conditions to see what impact, if any, they have on the project's other benefits. No one looks at the big picture of how hydropower fits into our national energy and environmental policy. No one is able to take a full and broad look at all of the issues that arise in a licensing proceeding and produce a license that brings benefits to all stakeholders. This lack of perspective has weakened the hydropower resource and its consumers. Balance must be restored.

In a May 2001 report to Congress, FERC stated its preferred solution to the licensing problem. I quote:

"The most effective way to reduce the cost and time of obtaining a hydropower license would be for Congress to make legislative changes necessary to restore the Commission's position as the sole federal decisional authority for licensing conditions and processes."[3]

While NHA agrees with FERC in this respect, we believe there is an alternative, more moderate solution – and that is the solution found in the *Energy Policy Act of 2005*. The bill would provide the balance, transparency and accountability that is missing from today's process while leaving intact the existing authorities of the federal resource agencies.

Let me say that again – the bill preserves the federal resource agencies' existing authority to issue conditions for hydropower projects. It would also preserve the current role of states,

[3] "Report on Hydroelectric Licensing Policies, Procedures, and Regulations: Comprehensive Review and Recommendations Pursuant to Section 603 of the Energy Act of 2000"; Federal Energy Regulatory Commission Staff, May, 2001.

Tribes, environmental groups and other stakeholders who play an important and active role in the licensing process. And, the bill preserves the existing environmental threshold required by the Federal Power Act. Therefore, there is no "environmental roll-back" as some have claimed.

The hydropower licensing reform provisions of the *Energy Policy Act of 2005* do several things, but I will focus on its primary feature. And that is this: where a federal resource agency has developed a license condition that it determines is necessary to fulfill its resource goals under Section 4(e) or Section 18 of the Federal Power Act, the bill allows a license applicant to propose an alternative to the agency's condition.

If the agency Secretary determines that the alternative condition meets existing statutory requirements for environmental and resource protection, and costs less, or has less of an impact on power generation than the condition proposed by the agency, the Secretary accepts the alternative condition.

If, on the other hand, the Secretary determines that the alternative does not adequately meet Federal Power Act resource standards, the alternative condition is rejected. Let me be clear, the decision-making authority lies with the federal resource agency – not FERC and not the license applicant. In addition, nothing in the bill prohibits non-applicant stakeholders from proposing alternatives of their own. The bill expressly states so.

Let me again be clear on the public participation issue, because there has been some confusion: the bill does not in any way change or diminish the frequent and full participation by the public in the licensing process. The hydro licensing process will continue to serve as the most public and inclusive process for the licensing or permitting of any energy source.

The bill would also do several other things that will add balance, transparency and accountability to the hydro licensing process. These other provisions include the opportunity for an expedited agency trial-type hearing of disputed issues of material fact and a non-binding dispute resolution process in certain limited circumstances. It would also require that the agency document that it at least considered the effects of its mandatory condition on energy supply, distribution, cost, and use, flood control, navigation, water supply, and air quality.

In terms of timing, while the bill may add a few months to the licensing process, it will actually save years at the back end of the process by eliminating significant contention, delay and litigation. By reducing the number of court appeals of license conditions, this bill could help facilitate earlier implementation of environmental mitigation and enhancement measures. What's more, the primary goal of hydropower licensing reform is to improve the process, not shorten it. Licensing reform is about creating a process that produces better results, and that is what the *Energy Policy Act of 2005* accomplishes.

The hydropower licensing reform debate has for years been a search for balance: can the nation balance the benefits of hydropower with environmental protection and mitigation? A growing number of members of Congress say "yes." Congress has debated hydro licensing reform for years. The result: responsible, bipartisan legislation in both the House and Senate for the past three congressional sessions.

I want to again stress the urgency of this matter. Without action, today's hydropower licensing process will continue to erode the many benefits provided by the nation's 2,000 non-federal hydropower projects at the expense of consumers and the environment. With Congressional

action, the nation's hydropower resource and its many power, environmental and societal benefits will be better preserved for future generations. I urge Congress to adopt the hydropower licensing reform provisions of the *Energy Policy Act of 2005*.

INCENTIVES FOR NEW HYDROPOWER DEVELOPMENT

While only three percent of the nation's 75,000 dams produce electricity, hydropower is presently the largest renewable electricity source. According to data from the Energy Information Administration and the Department of Energy, however, hydropower is on the decline and underutilized. At best, hydropower's contribution to national energy supply will remain flat. Congress can, and should, reverse this trend.

The Department of Energy estimates that as much as 21,000 megawatts of hydropower capacity sits unused at existing hydropower facilities and non-hydropower dams. This hydropower capacity could be developed *without* building new dams or impoundments. This is enough power for eight cities the size of Seattle or enough power for the state of Virginia. It is enough yearly power for 6.9 million homes.[4] It would also result in the avoidance of 42 million metric tons of carbon emissions each year.

Of the 21,000 MW identified by DOE, 4,300 MW of new hydropower could be achieved by simply further developing our nation's existing hydropower infrastructure through efficiency improvements and capacity additions. This is enough power to meet the electricity needs of the states of New Hampshire and Vermont. Put another way, it is enough yearly power for 1.4 million homes.

[4] Using a 40% capacity factor.

Unfortunately, almost none of the nation's potential hydropower capacity is being developed. Bringing new hydro generation on-line is capital intensive, and the costs are increasing. In addition, hydropower faces costly regulatory hurdles of new development not faced by other resources. While the costs clearly vary from project to project, new hydro generation – depending on the type of upgrade – runs from $650 to $2,500 per kilowatt (Kw), sometimes more. Hydropower has similar disadvantages in today's energy markets as other renewables and deserves similar policies designed to encourage the development of renewable sources of power.

In its Report, the National Commission on Energy Policy recommended that Congress expand the renewable energy production tax credit to include "new hydropower generation." During the 107th and 108th Congresses, members in both the Senate and the House, on both sides of the aisle, introduced 15 bills that recognized the hurdles to new hydropower development by providing incentives, including H.R. 6. The *Energy Policy Act of 2005* also provides incentives for hydropower development – incentives which have been urged for years by Congressmen Shadegg and Wynn.

Incentives work. Look at the recent growth of the wind energy industry, as well as some of the other renewable energy industries. And, look at the last time there was any significant growth in the hydropower industry. That was in the 1980s, when Congress last provided incentives for hydropower development. Those incentives resulted in approximately 2,000 MWs of clean energy being placed on the electricity grid. It's time to provide incentives again.

Considering the bipartisan support for upgrading existing hydropower facilities and maximizing the power output of the nation's existing hydropower and dam infrastructure, as well as the nation's growing need for clean, domestic, reliable energy, it is time for Congress to ensure that

hydropower's potential capacity is fully developed. The only way to do that is to adopt incentives for hydropower development. Without incentives, this valuable potential will continue to sit unused at a time when it is most needed. NHA strongly urges Congress to include a role for hydropower in its renewable energy tax incentive package.

R&D APPROPRIATIONS FOR DOE'S HYDROPOWER PROGRAM

The *Energy Policy Act of 2005* states that, "the Secretary of Energy shall conduct a balanced set of programs of energy research, development, demonstration, and commercial application to support Federal energy policy and programs by the Department. Such programs shall be focused on: (1) increasing the efficiency of all energy intensive sectors through conservation and improved technologies; (2) promoting diversity of energy supply; (3) decreasing the Nation's dependence on foreign energy supplies; (4) improving United States energy security; and (5) decreasing the environmental impact of energy-related activities."

The DOE hydropower program, which mostly focuses on the Advanced Hydropower Turbine (AHT), accomplishes all of these goals. Unfortunately, the Administration does not see it this way, as it slashed the DOE hydropower budget by 90 percent for FY 2006 and it is calling to abolish the program at the end of 2006.

While NHA understands the Administration's desire to reduce federal spending, the decision to greatly slash, then end, the DOE hydropower program should be reconsidered. This program's progress over the past decade in developing advanced turbine technologies is about to yield significant results that will lead to more clean and inexpensive hydropower while reducing impacts on fish. Once commercialized, these technologies will pay for themselves countless times over while reducing conflict and legal disputes.

The DOE hydropower program, which received $4.8 million from Congress for FY 2005 after the Administration recommended $5 million, is a joint program between DOE and the hydropower industry. It began approximately a decade ago with matching funds from industry. Its general mission is to improve hydropower's environmental performance and increase its contribution to national energy supply.

Among other things, the DOE hydropower program also focuses on improving hydropower's environmental performance, as well as assessing the potential of non-conventional, emerging hydropower technologies, such as kinetic hydropower, that hold tremendous promise. While the DOE hydropower budget has historically accounted for less than two percent of the budget for renewable energy and efficiency programs, it has produced results.

With regard to the program's primary focus, the AHT is a turbine primarily designed to improve fish passage. In addition to improving fish passage, the new turbine will increase hydropower project efficiency and result in power output increases. In the fall of 2004, after receiving approval from FERC, Grant County PUD in the state of Washington installed an AHT at its Wanapum Dam on the Columbia River. Testing of the turbine will start this spring during juvenile salmon runs – testing that will require analysis, and possible further testing, through 2007.

Grant's success could pave the way for other projects with fish migration issues, including federal projects. The Advanced Hydropower Turbine could practically eliminate the downstream impact of dams from a fish passage standpoint – this is potentially a significant turning point for the hydropower industry, both federal and non-federal. Since the federal government is the

largest user of hydropower resources, it stands to gain significantly from the successes of the DOE program.

In its report, the National Energy Commission recognized the need for the development of new hydropower technologies to address environmental issues (i.e., the AHT) and expand power output. The Commission also encouraged the development of non-conventional hydro technologies, such as micro-hydropower and tidal power. These are areas on which the DOE program works.

Shutting down the DOE program sends the signal that the Department of Energy should not examine issues related to hydropower, a resource on which the federal government heavily depends for its own power production. It also sends a signal that the government is not concerned about improving hydropower and addressing its issues.

There is far too much important work to be accomplished to abandon the DOE program now. Closing the program would mean that the years of hard work and resources spent by the government and the industry would be for naught. Congress must restore the program, increase its commitment to DOE's hydropower program, and ensure full funding for the AHT, as well as other hydropower research areas within the Department.

Specifically, NHA recommends that the Committee amend the *Energy Policy Act of 2005* so that it include the following language on the hydropower program within the R&D Title's section on renewable energy:

"Funding for the Department's hydropower program shall be used for the Advanced Hydropower Turbine (AHT) program and related activities that will improve the technical, societal and environmental benefits of hydropower. Funding shall also support broadening the Department's hydropower program to study other operational and environmental issues related to hydropower production, such as the potential integration of hydropower with other renewable energy technologies, and to encourage the development of incremental hydropower. Funding shall also be made available to assess, research, develop, and test emerging, non-traditional hydropower technologies, such as kinetic hydropower, that will enable the development of new hydropower capacity. The Department shall disperse such money among these program areas as appropriate."

NHA also recommends that the Committee include language in the R&D Title stating that funding for the DOE hydropower program shall be set at $10,000,000 for each year from FY 2006-2010. Given the allocations the *Energy Policy Act of 2005* requests for renewables R&D, NHA's funding request for the DOE hydropower program would amount to less than two percent of the overall renewable energy budget – surely something Congress can afford.

FEDERAL POWER PURCHASING REQUIREMENT

The *Energy Policy Act of 2005* requires the Secretary of Energy to establish a program that would require the federal government to purchase a certain amount of electricity from renewable resources beginning in 2007. After 2013, the federal government would be required to purchase on a yearly basis 7.5 percent of its electricity from renewable resources, which are defined in the bill.

While a certain type of hydropower is presently included in the definition of renewable resources under the *Energy Policy Act of 2005*, the definition is too narrow in scope, and also unnecessarily descriptive. NHA encourages Congress to make the following changes to the Federal Power Purchasing requirements of the bill:

Instead of the lengthy description of what hydropower resources are considered renewable, Congress should simply modify the definition so that it states "incremental hydropower." Incremental hydropower is a term that has been used for years in various pieces of legislation. Incremental hydropower is simply new electricity at existing hydropower facilities achieved through efficiency improvements or additions of capacity.

In addition, NHA strongly encourages Congress to broaden the definition of renewable resources that so it allow for the inclusion of "new hydropower capacity at existing non-hydropower dams; kinetic hydropower, micro-hydropower and low-head/low-power hydropower."

By making the changes recommended above, Congress will ensure that it can best meet the goals outlined in the Federal Power Purchasing requirement, as well as better recognize hydropower as a renewable source of energy. It will also encourage hydropower development at existing projects and non-hydro dams – development which would undergo an extensive environmental screening process.

CLOSING

Hydropower has long played an important role in the nation's energy history, but it stands ready to play an even greater role in the future. To do so, Congress must soon address the issues I

discussed today. Otherwise, the hydropower resource will continue to decline, and a large amount of clean, reliable, domestic, and secure energy capacity will sit unused at a time when it is most needed.

I again thank you for allowing me the opportunity to discuss the hydropower provisions of the *Energy Policy Act of 2005*. I am happy to answer any questions of the Committee.